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Amendments to the Claims

The following listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A purified nucleic acid construct comprising:
a gene cassette encoding a modified protein selected from the group consisting of:
a modified LuxA comprising an amino acid sequence in its carboxy terminus that
specifically binds to a tail-specific protease, and
a modified LuxB comprising a PEST sequence in its carboxy terminus that
specifically binds to a protein associated with a ubiquitin-proteasome pathway,
wherein the amino acid sequence that specifically binds to a tail-specific protease
results in a reduced half-life of the modified LuxA protein when expressed in a bacterial
cell compared to the half-life of the wild-type form of the LuxA protein when expressed
in the bacterial cell, and
wherein the PEST sequence results in a reduced half-life of the modified LuxB
protein when expressed in a yeast cell compared to the half-life of the wild-type form of
the LuxB protein when expressed in the yeast cell.

Claim 2 (canceled).

Claim 3 (previously presented): The purified nucleic acid construct of claim 1, wherein said gene cassette encodes all proteins necessary for production of bioluminescence without addition of an exogenous substrate.

Claims 4-8 (canceled).

Claim 9 (previously presented): A purified nucleic acid construct comprising a gene cassette encoding a modified LuxA comprising a carboxy-terminal sequence selected from the group consisting of SEQ ID NOS: 8, 9, and 10, wherein the half-life of

the modified LuxA protein when expressed in an *E. coli* cell is shorter than the half-life of the wild-type form of the LuxA protein when expressed in the *E. coli* cell.

Claims 10-14 (canceled).

Claim 15 (previously presented): The purified nucleic acid construct of claim 1, wherein the modified protein is the modified LuxB and said protein associated with a ubiquitin-proteasome pathway mediates degradation of the modified LuxB via a ubiquitin-proteasome pathway.

Claim 16 (previously presented): The purified nucleic acid construct of claim 15, wherein said protein associated with a ubiquitin-proteasome pathway is SCF(GRR1).

Claim 17 (canceled).

Claim 18 (previously presented): A purified nucleic acid construct, comprising a modified LuxB comprising the PEST-rich 178 amino acid carboxy terminal sequence of G1 cyclin Cln2,

wherein the half-life of the modified LuxB protein when expressed in a yeast cell is shorter than the half-life of the wild-type form of the LuxB protein when expressed in the yeast cell.

Claim 19 (previously presented): A vector comprising the purified nucleic acid construct of claim 1.

Claim 20 (previously presented): The vector of claim 19, wherein said vector is a plasmid.

Claim 21 (previously presented): The vector of claim 19, wherein said vector is an expression vector suitable for expressing a nucleic acid incorporated in the vector in a

cell type selected from the group consisting of: a bacterial cell, a yeast cell and a mammalian cell.

Claim 22 (previously presented): A prokaryotic cell comprising the vector of claim 19.

Claim 23 (previously presented): The prokaryotic cell of claim 22, wherein said cell is a bacterial cell.

Claim 24 (canceled).

Claim 25 (previously presented): A eukaryotic cell comprising the vector of claim 19.

Claim 26 (previously presented): The eukaryotic cell of claim 25, wherein said cell is a yeast cell or a mammalian cell.

Claims 27-29 (canceled).

Claim 30 (previously presented): The purified nucleic acid construct of claim 18, wherein said gene cassette further encodes LuxA.

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Claim 31 (canceled).

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